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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,964	02/21/2006	Shuji Matsumura	1155-0291PUS1	8561
2292	7590	12/11/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			LU, C CAIXIA	
PO BOX 747			ART UNIT	
FALLS CHURCH, VA 22040-0747			PAPER NUMBER	

1713

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/568,964

Applicant(s)

MATSUMURA ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/21/06</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5 and 12-13, drawn to a propylene random copolymer.

Group II, claim(s) 6-11, drawn to a process of making propylene polymer.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the random copolymer of Group I comprise the same propylene copolymers as the prior art copolymers, e.g. Nakano et al. (US 6,846,943). As the recited cycloolefin does not make a contribution over the prior art, i.e. the special technical feature(s) is anticipated by or obvious in view of the prior art, unity of invention is lacking and restriction is appropriate.

3. During a telephone conversation with Attorney Marc Weiner on November 27, 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-5 and 12-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-11 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b)

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if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3-5 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 does not provide proper antecedence for dependent claims 3-5. The ethylene polymer of the first skin layer and propylene homopolymer of the second and third layers are not within the scope of the propylene random copolymer of claim 1.

It appears that claim 13 should depend on claim 12 rather than 11 and is treated under such a presumption. However, if claim 13 is intended to be depended on claim 11, claim 13 will not be considered due to improper multiple dependency.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al. (US 6,846,943).

Nakano teaches a propylene copolymer containing not less than 50 wt% of propylene unit with high stereoregularity prepared in the presence of a specified metallocene catalyst, wherein the preferred comonomer is ethylene, the melting temperature ( $T_m$ ) of the polymer is in the range of 130-150°C, and the 2,1-insertion and 1,3-insertion together is less than 0.05 mol%. Nakano's Examples 2 and 7 demonstrate the polymerization conditions which provide propylene polymers with 2,1-insertion and 1,3-insertion together being less than 0.05 mol%, and the propylene homopolymer prepared in Example 7 has  $T_m$  of 149.7 °C. However, it is noted that the propylene polymers of those Examples does not meet the "Px", the mol% of the comonomer is the copolymer, limitation of the instant claims, i.e., ethylene content in the polymer is higher than zero but not more than 15 mol%.

However, as shown above, Nakano expressly discloses propylene copolymer with comonomer in the range of less than 50 wt% can be prepared, a propylene with comonomer in the range of higher than zero but not more than 15 mol% is within Nakano's disclosure. Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Nakano's teaching to copolymerize propylene and ethylene with ethylene content of not more than 15 mol% under the polymerization conditional of Nakano's Examples 2 and 7 in order to provide propylene polymers with minimized 2,1-insertion and 1,3-

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insertion in the propylene chain of the polymer since such is within the scope of Nakano's teaching and in the absence of any showing criticality and unexpected results.

It is understood that  $T_m$  decreases with the increase of the amount of ethylene incorporated to the propylene polymer. Based on the  $T_m$  of Nakano's Example 7 of 149.7°C, it would have been obvious to incorporate small amount of ethylene the propylene polymer under the polymerization condition of Example 7 to provide ethylene-propylene copolymer with  $T_m$  in the range of 130-150 °C.

While Nakano does not expressly disclose the n-decane soluble fraction of the propylene polymer, based  $T_m$  and low level of 2,1- and 1,3-insertion of Nakano's propylene polymer of Examples 2 and 7 which evidence the similarities between Nakano's propylene polymers and the propylene polymers of the instant claims, one would have expected Nakano's propylene copolymer to be substantially similar to the random propylene polymer of the instant claims. Therefore, Nakano's propylene-ethylene copolymer with ethylene at the lower end of the range are expected to inherently have similar solubility behavior in n-decane as that of the instant claims.

### ***Conclusion***

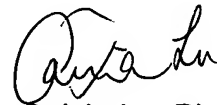
9. The prior art made of record in Form-892 and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

A handwritten signature in black ink, appearing to read 'Caixia Lu', is positioned above the printed name.

Caixia Lu, Ph. D.  
Primary Examiner